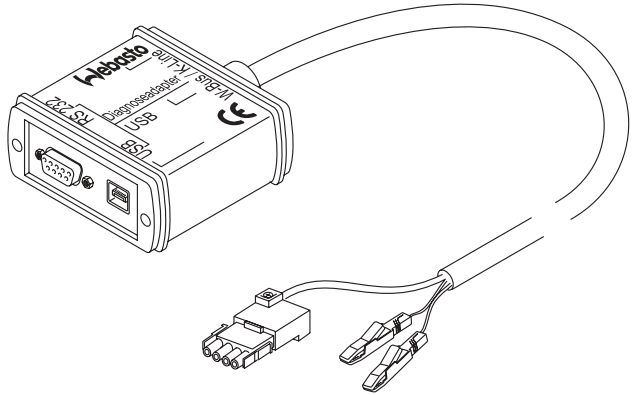
Webasto
Feel the drive

Webasto Thermo Test
Version 2.07

Operating instructions



06/2005

Table of contents

1	**General information / installation**	**1**
1.1.	General	1
1.2.	System requirements	4
1.3.	Diagnostic-capable units	5
1.4.	Installation on the hard disk	6
1.5.	Connections	11
2	**Heater-specific diagnosis**	**12**
2.1.	Test procedure	12
2.2.	Menu: Diagnosis	13
2.3.	Menu: View	15
2.4.	Menu: Error memory	16
2.5.	Menu: Print	17
2.6.	Menu: Control (depending on heater version)	18
2.7.	Menu: Calibration	19
2.8.	Menu: Tools	20
2.9.	Menu: Window	21
2.10.	Menu: Help	22
3	**Service modules for components and accessories**	**23**
3.1.	IPCU intelligent PWM control unit	23
3.2.	Telestart T100HTM	24
4	**Troubleshooting**	**25**
4.1.	General	25

1 General information/installation

1.1. General

The Webasto heater diagnostic software is used for checking heaters with a diagnostic capability in all voltage versions with the help of a personal computer.

The PC diagnostic adapter and the type-specific test adapter supplied with the software are required to connect the heater to the PC (see figure). The test adapters are identical as used in combination with the diagnostic computer.

Although the program has been tested successfully on many computers, it is not impossible that it will not run properly on certain PCs. In this case, please let us know so that we can make improvements if necessary.

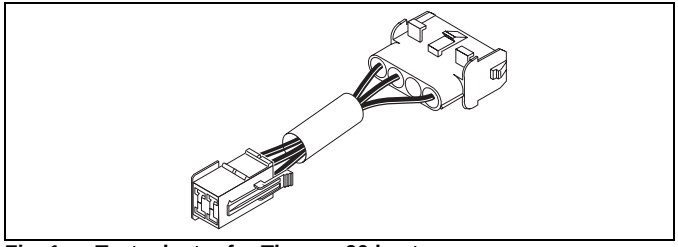


Fig. 1: Test adapter for Thermo 90 heaters, order no. 836 61B

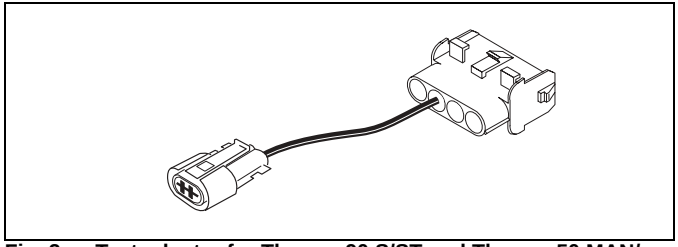


Fig. 2: Test adapter for Thermo 90 S/ST and Thermo 50 MAN/ trade heaters, order no. 925 56A

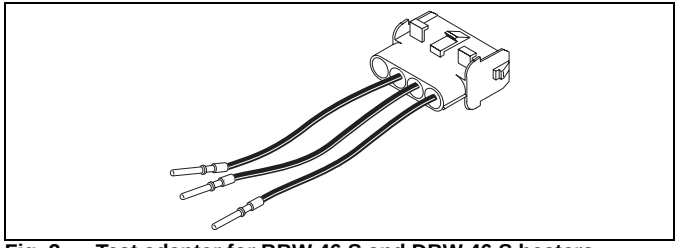


Fig. 3: Test adapter for BBW 46 S and DBW 46 S heaters You can make an appropriate adapter yourself if required

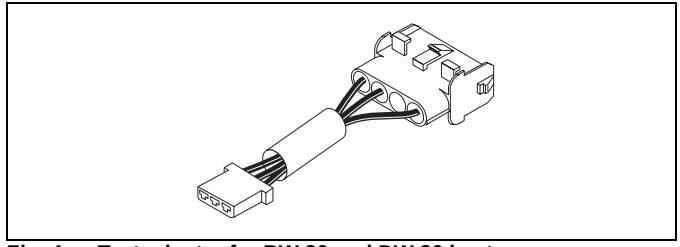


Fig. 4: Test adapter for BW 80 and DW 80 heaters, order no. 213 33A

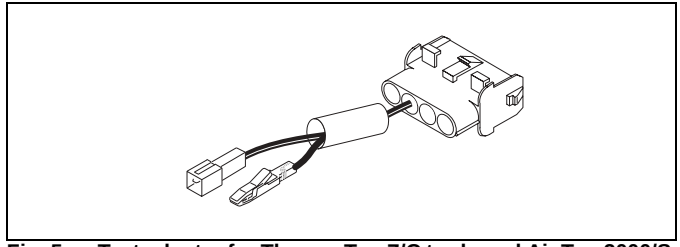


Fig. 5: Test adapter for Thermo Top Z/C trade and Air Top 2000/S heaters, order no. 925 66B

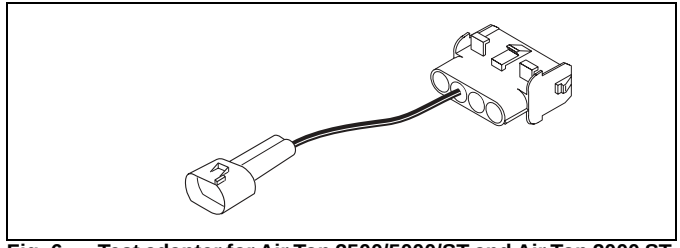


Fig. 6: Test adapter for Air Top 3500/5000/ST and Air Top 2000 ST heaters, order no. 925 55A

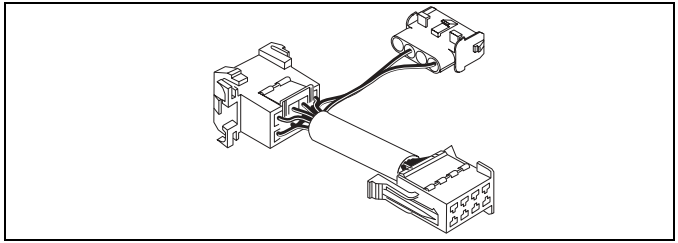


Fig. 7: Test adapter for DW 230/300/350 and Thermo 230/300/350 heaters, order no. 208 65A

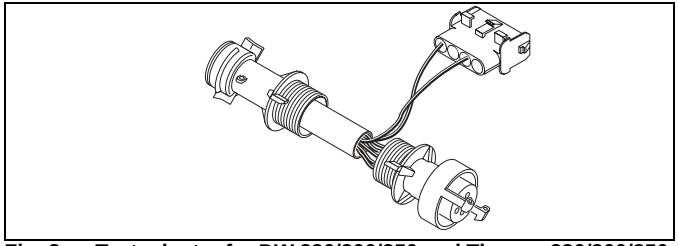


Fig. 8: Test adapter for DW 230/300/350 and Thermo 230/300/350 heaters, order no. 226 56A

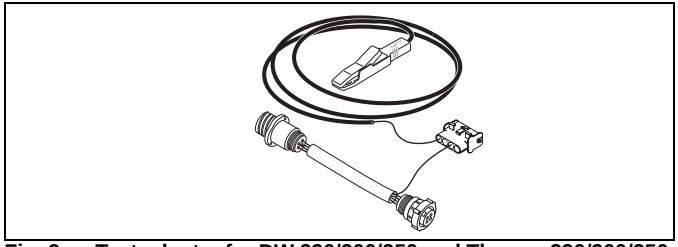


Fig. 9: Test adapter for DW 230/300/350 and Thermo 230/300/350 heaters, order no. 883 36A

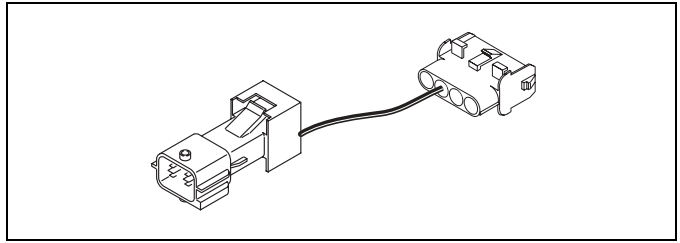


Fig. 10: Test adapter for DW 230/300/350 and Thermo 230/300/350 (RVI) heaters, order no. 926 29A

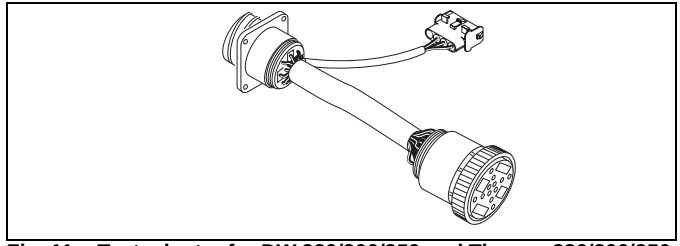


Fig. 11: Test adapter for DW 230/300/350 and Thermo 230/300/350 (Van Hool) heaters, order no. 926 37A

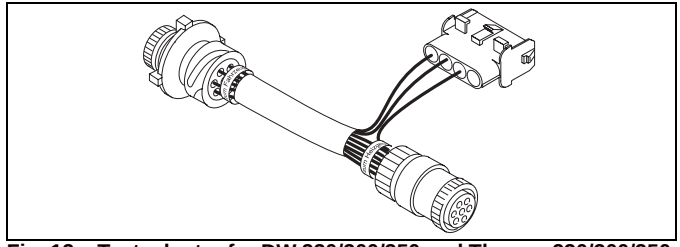


Fig. 12: Test adapter for DW 230/300/350 and Thermo 230/300/350 (MBI/Citaro) heaters, order no. 662 65A

1.2. System requirements

– IBM-compatible PC, 486 or higher depending on the requirements of the operating system.

– Min. 8 MB of RAM, depending on the requirements of the operating system.

– Microsoft Windows 98, ME, NT4, 2000, XP or newer versions.

– COMCTL32.DLL, Version 4.70 or newer
(Can be downloaded from the Microsoft Internet download area (http://www.microsoft.com).)

– 3 MB available space on the hard disk.

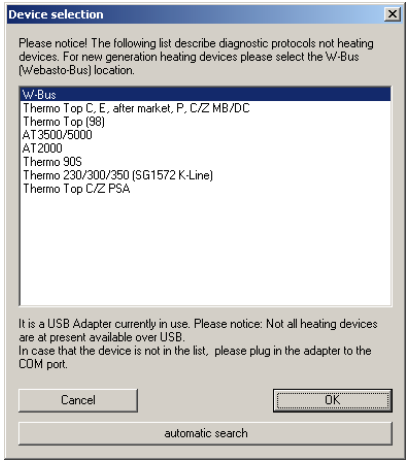
– A vacant COM port (RS232C) or a vacant USB port.

– Optional: Internet access (for software updates).

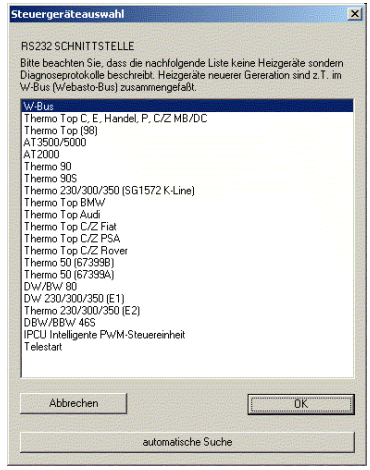
Webasto Thermo Test 2002 will not run under Windows 3.1 with Win32s.

NOTE
The USB port cannot be used for PC diagnosis with Windows 95 and Windows NT because these operating systems do not support USB ports.

1.3. Diagnostic-capable units


Device selection
Please notice! The following list describe diagnostic protocols not heating devices. For new generation heating devices please select the W-Bus (Webasto-Bus) location.
W-Bus
Thermo Top C, E, after market, P, C/Z MB/DC
Thermo Top (98)
AT3500/5000
AT2000
Thermo 90S
Thermo 230/300/350 (SG1572 K-Line)
Thermo Top C/Z PSA
It is a USB Adapter currently in use. Please notice: Not all heating devices are at present available over USB.
In case that the device is not in the list, please plug in the adapter to the COM port.
Cancel
OK
automatic search

Heater selection for USB interface



Heater selection for COM interface

NOTE
If the device is not listed in *Select device*, the heater must be a model with *W-Bus*. W-Bus-capable heaters are grouped under the heading of W-Bus. In this case use the *W-Bus* selection. The *W-Bus* selection contains a list of various heaters that use the same diagnostic port (see also point 1).

Diagnosis of the following units is only possible via serial port, the USB interface cannot be used with these units:
Thermo 50; Thermo 90;
Thermo 230; Thermo 300; Thermo 350 (not with SG1572 K-line)
BBW 46S; BW 80; DBW 46S; DW 80; DW 230; DW 300; DW 350

1.4. Installation on the hard disk

NOTE
Webasto does not accept liability for any data loss on your computer. Therefore, we recommend you back up your hard disk.

If you already have older versions of the software installed on your computer, they must be uninstalled before the new installation.

1.4.1. Installation using the installation CD

To install the Webasto PC heater diagnostic software proceed as follows: Webasto recommends using the automatic installation program:

1. Close all Windows programs.
2. Deactivate the virus scanner.
3. Insert the installation CD in the appropriate drive.
4. The installation will start automatically.
   If the program does not autorun, select Start > Run. Click Browse and then select “Setup.exe” on the installation CD and click OK. Alternatively select the CD drive containing the installation CD using Explorer. In the main directory click “Setup.exe”.

The Windows Setup Manager will then guide you through the installation.

1.4.1.1. WTT 2002 software installation

NOTE
In this example, installation under Windows 2000 has been selected. The installation under other Microsoft operating systems such as Windows 98, ME or XP is identical.

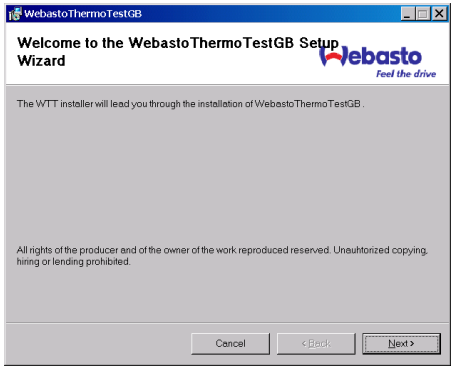
Please note
If you are working in a network and require administrator rights for the installation then please log on using the corresponding user name and password.

1. Perform the steps listed in 3.1.

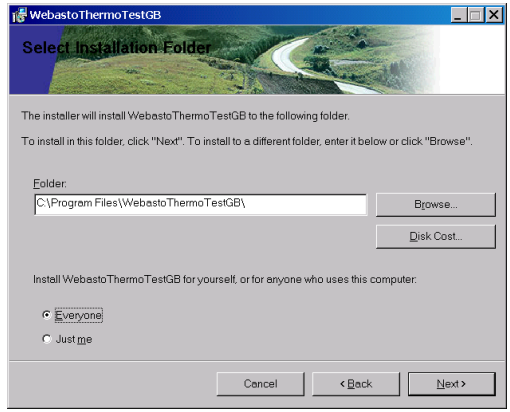
Windows responds:

2. Select the required language and confirm your selection with “OK”.

3. Wait for the installation preparation to finish.
   The Setup program responds:


WebastoThermoTestGB
Welcome to the WebastoThermoTestGB Setup Wizard
Webasto
Feel the drive
The WTT installer will lead you through the installation of WebastoThermoTestGB.
All rights of the producer and of the owner of the work reproduced reserved. Unauthorized copying, hiring or lending prohibited.
Cancel
< Back
Next >

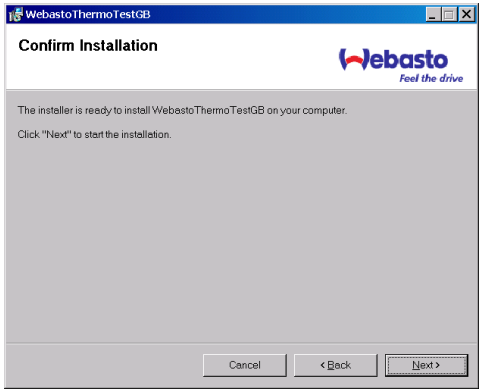
4. This is information about the copyright and industrial rights of this software. If you agree with these clauses, click “Next” to continue.


WebastoThermoTestGB
Select Installation Folder
The installer will install WebastoThermoTestGB to the following folder.
To install in this folder, click "Next". To install to a different folder, enter it below or click "Browse".
Folder:
C:\Program Files\WebastoThermoTestGB\
Browse...
Disk Cost...
Install WebastoThermoTestGB for yourself, or for anyone who uses this computer:
Everyone
Just me
Cancel
< Back
Next >

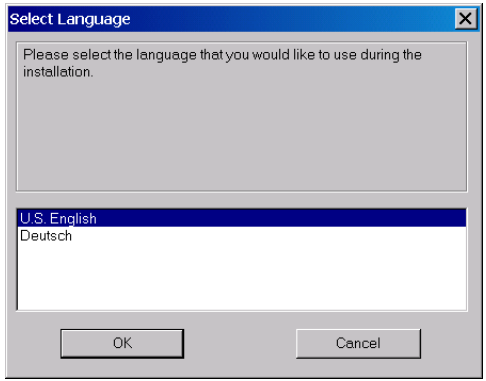
5. At this point, you are asked in which folder you want to install the Webasto Thermo Test software. If you wish to change the specified path (C:\Program Files\WebastoThermoTest\), click “Browse” and select a different folder.
   You are then asked whether the program should be installed for all users of this computer or only for the current user.

Please note
Please note that if you select your own path, any folders with the same name on the hard disk will be overwritten.
If you select the “Current User” option, the program is only installed for the current user.

6. Confirm the settings with “Next”.



7. Click “Next” to start the installation.

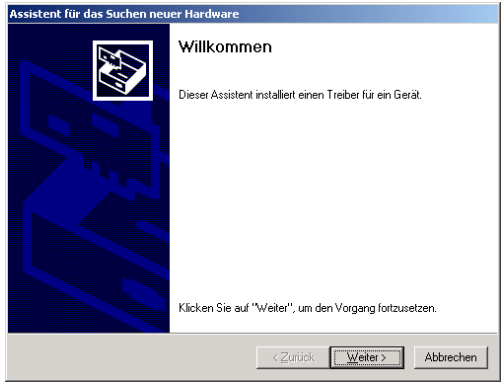


8. Please wait, the installation is not yet finished.

Connect the USB adapter to a vacant USB connection on your computer.

9. The process runs automatically after you plug in the USB adapter. Windows responds:

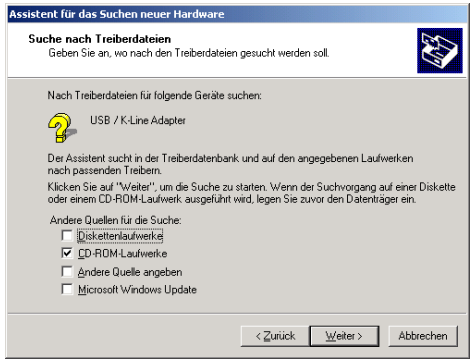
Wait until the matching drivers have been found.


Assistent für das Suchen neuer Hardware
Willkommen
Dieser Assistent installiert einen Treiber für ein Gerät.
Klicken Sie auf "Weiter", um den Vorgang fortzusetzen.
< Zurück
Weiter >
Abbrechen

10. Click “Next” to continue the installation of the USB drivers.

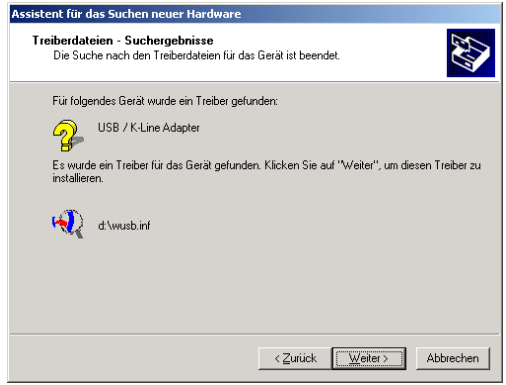
Assistent für das Suchen neuer Hardware
Hardwaretreiber installieren
Ein Gerätetreiber ist ein Programm, das das Ansprechen des Geräts durch das Betriebssystem ermöglicht.
Der Assistent wird die Installation des Geräts fertig stellen:
USB / K-Line Adapter
Gerätetreiber sind Programme zum Steuern der Hardware. Für das neue Gerät sind Treiberdateien erforderlich. Klicken Sie auf "Weiter", um diese Treiberdateien zu suchen und die Installation zu abzuschließen.
Wie möchten Sie vorgehen?
Nach einem passenden Treiber für das Gerät suchen (empfohlen)
Alle bekannten Treiber für das Gerät in einer Liste anzeigen und den entsprechenden Treiber selbst auswählen
< Zurück
Weiter >
Abbrechen

11. Select “Search for a suitable driver for the device” and confirm your selection with “Next”.

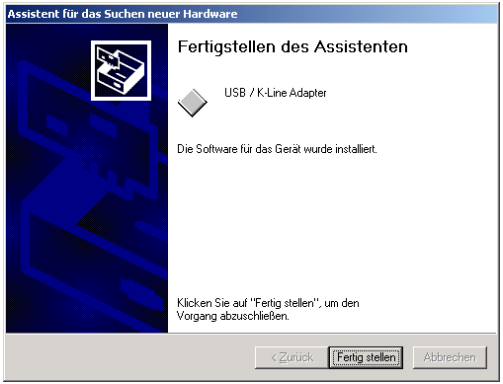

Assistent für das Suchen neuer Hardware
Suche nach Treiberdateien
Geben Sie an, wo nach den Treiberdateien gesucht werden soll.
Nach Treiberdateien für folgende Geräte suchen:
USB / K-Line Adapter
Der Assistent sucht in der Treiberdatenbank und auf den angegebenen Laufwerken nach passenden Treibern.
Klicken Sie auf "Weiter", um die Suche zu starten. Wenn der Suchvorgang auf einer Diskette oder einem CD-ROM-Laufwerk ausgeführt wird, legen Sie zuvor den Datenträger ein.
Andere Quellen für die Suche:
Diskettenlaufwerke
CD-ROM-Laufwerke
Andere Quelle angeben
Microsoft Windows Update
< Zurück
Weiter >
Abbrechen

12. Select “CD-ROM drives” from the other sources and click “Next” to confirm.

Wait until the matching drivers have been found.


Assistent für das Suchen neuer Hardware
Treiberdateien - Suchergebnisse
Die Suche nach den Treiberdateien für das Gerät ist beendet.
Für folgendes Gerät wurde ein Treiber gefunden:
USB / K-Line Adapter
Es wurde ein Treiber für das Gerät gefunden. Klicken Sie auf "Weiter", um diesen Treiber zu installieren.
d:\wusb.inf
< Zurück
Weiter >
Abbrechen

13. Windows has found the suitable drivers. Click “Next” to install the driver.


Assistent für das Suchen neuer Hardware
Fertigstellen des Assistenten
USB / K-Line Adapter
Die Software für das Gerät wurde installiert.
Klicken Sie auf "Fertig stellen", um den Vorgang abzuschließen.
< Zurück
Fertig stellen
Abbrechen

14. Click “Finish” to complete installation of the USB drivers successfully.
15. Restart the computer to complete the installation.

1.4.2. Download from the Internet and installation

The latest version of the program is available from our dealer area under www.webasto.de.

If you do not have access, please contact the regional manager responsible for your area or your Webasto dealer.

Download:

- Click the download link on the Internet.
- Select save file and save the file in a suitable folder on your hard drive.

Installation (new installation or update):

- Close all Windows programs.
- Open Explorer and go to the folder in which you saved the file from the Internet.
- Double click this file.
- The Windows Setup Manager will then guide you through the installation. (See “Installation”, chapter 1.4.1, page 6.)

1.5. Connections

CAUTION
The work MUST be completed in the following sequence.

– Connect the 9-pin plug or the USB plug (both cables are supplied) to a vacant serial port (COM1 or COM2) or a vacant USB port on the PC (the plug can remain connected if necessary).
– Connect the 9-pin plug or USB plug to the diagnostic adapter.

NOTE
The system must be switched manually between COM1 and COM2 (if the PC has more than one serial port). There is no need to switch between the COM and USB ports manually. The USB port to which the hardware is connected will be recognised automatically. This applies even if there is more than one USB port.
Both COM and USB connections are not allowed to be used at the same time.

CAUTION
To avoid potential differences the vehicle must not be connected to a charger during the diagnostic procedure.

CAUTION
Before connecting to the heater ensure that there is no voltage between the earths of the PC and the vehicle. Voltages in excess of 5 V may damage both the diagnostic adapter and the PC.
First connect the adapter to the positive pole and then to the earth to ensure this.

– Connect the type-specific test adapter to the 4-pole connector of the diagnostic adapter and the heater. The heater may be switched on.

NOTE
The connection cable to the heater is not allowed to be routed near the vehicle ignition system or activated electrical devices (e.g. electric drill).

– Exit the diagnostic program before disconnecting the cables. No particular sequence must be observed for disconnecting the cables.

2 Heater-specific diagnosis

2.1. Test procedure

NOTE
The heater must be connected to the vehicle's electrical system but not necessarily operating to execute a test function.

If the adapter is not connected or connected to the wrong port or the heater is not on or not properly connected, an error message will be displayed. In this case check the above causes.

The program monitors the connection to the heater and identifies disconnects. Irregular disconnects (e.g. pulling a plug during the test) will result in the message "Timeout" being displayed in the status window.

Specific notes on the various types of heaters:

Thermo Top Z/C:
If the diagnostic cable is connected, the heater (depending on the version) cannot be started using the timer or the Telestart. In this case first disconnect the diagnostic cable, start the heater and then reconnect the diagnostic cable.

BBW46S/DBW46S:
After the diagnosis has been started the heater enters a diagnostic mode with a run-down.

Thermo Top P:
The UP (circulating pump) button is not permanently activated during diagnosis; instead, it flashes at various frequencies depending on the operating status of the circulating pump.

DW 230..350/Thermo 230..350:
The diagnostic port may suffer malfunctions when errors from this unit are saved. The diagnostic program detects these malfunctions and will rectify the problem by deleting the error memory (saved error data will be lost).

The pump pressure test is not possible.

Thermo 50 MAN/trade:
The Thermo 50 MAN/trade heater does not need to be switched on during the diagnosis.

After a TRS condition has been triggered, the heater may only be restarted as follows:

- Switch off the heater
- To exit the diagnosis
- Wait at least 10 s

2.2. Menu: Diagnosis

2.2.1. Select device (Start diagnosis)

Open the dialog box to select the control unit using the menu command *Diagnosis/Select device* or by clicking the button .

Unit	Application
Thermo Top V	All existing applications
Thermo Top C/Z	DC C Class (W203 and W203Mopf after 09/04), DC E Class (W211), DC S Class (W220 and W220Mopf after 09/02), DC SL Class (R230), DC CLK Class (W209), Porsche Cayenne, AUDI A8 (D3), VW Phaeton (D1), VW T5, VW Touareg (MAC), BMW 7 Series (E65), Mazda 6, Mazda MPV (both U222)
AT2000ST	All
AT3500ST	All
Thermo 90ST	All
GBW 300	All

Heater selection for USB interface

2.2.1.1. To select the control unit and start the diagnostic process:

- Click the <Auto search> button.
  The system performs an automatic search using the device identifier and then starts the diagnostic process.
  or
- Mark the appropriate control unit by clicking it and then click the <OK> button.
  The diagnostic process will be started.
  or
- Double click the relevant control unit.
  The diagnostic process will be started.

2.2.2. To exit the diagnosis

End the current diagnosis using the menu command *Diagnosis/End diagnosis*, function key **F3** or by clicking the button .

2.2.3. To restart the diagnosis

You can restart the diagnosis of the control unit you have specified earlier by selecting the menu command *Diagnosis/Start diagnosis*, pressing function key **F2** or clicking the button .

2.2.4. Component test

Open the dialog box of the same name using the menu command *Diagnosis/Component test…* or by clicking the button .

- Mark the components that you wish to test in the options box, for example the combustion air fan.
- Click the <Start> button to start the test on the selected component.
- Click the <Stop all> button to terminate the current test.

NOTE
This function is not available for BBW 46 S/DBW 46 S.

Note on Air Top 2000
Heating mode is terminated with a short slow-down time, after which the test functions are available (diagnostic mode). The test starts after a further acknowledgement by pressing the Enter key or clicking the OK button. After the component test has been ended by clicking the Cancel button, the heater will resume normal control mode.

Note on Thermo 50 MAN/trade
The component test is only available when the heater is OFF. The CO_2 adjustment may only be carried out in combustion mode with the heater in full power.

2.2.5. Line priming

Open the dialog box of the same name using the menu command *Diagnosis/Prime line…* or by clicking the button .

- Enter the time for priming the line in seconds in the priming time box. The default is 30 seconds.
- Click the <Start priming> button to start the line priming process.
- Click the <Stop priming> button to cancel your entry or to stop the line priming prematurely.

NOTE
The priming process cannot be stopped on some heaters.

2.2.6. To save the data summary

Select menu command *Diagnosis/Save summary…* to open the report file dialog box.

The summary shows operating data and control unit information.

- Enter as clear a file name as possible in the file name box for the new text file, e.g. report_dated_011213.
  The file extension (.TXT) is added automatically or may be entered as part of the file name, e.g. Test_011214.txt.
- Click the <Save> button to save the summary of the diagnostic data.

2.2.7. To open the data summary

To open an existing summary of diagnostic data, open the report file dialog box using menu command *Diagnosis/Open summary…*

- Mark the file you want to review by clicking it. The name of the marked file will be transferred into the file name box.
- Click the <Open> button or double click the file name to open the text file.
- The Display summary view will be opened.
- Click the <OK> button to close the view.

2.2.8. Start test record

Use the *Diagnosis/Start measurement recording…* menu command to open the Protocol file dialog box.

- Enter as clear a name as possible into the protocol file name box for the new text file, e.g. protocol_dated_011213.
  The file extension (.TXT) is added automatically or may be entered as part of the file name, e.g. Test_011214.txt.
- Enter the recording interval (the default is 10 seconds).

NOTE
When you have finished the diagnosis, end the measurement recording.

2.2.9. To end measurement recording

- The <OK> button starts the recording.
- Use the Diagnosis/Measurement recording menu command to end measurement recording.

2.3. Menu: View

You can select between different views in order to see different displays and data about the heaters:

2.3.1. Overview window

This view gives you an overview on the values during the diagnosis. In addition to the operating voltage, temperature, etc. the device status is also shown.

- Use the *View/Overview window…* menu command or click the button to open the Overview window.

2.3.2. Operating data

The operating data view gives you an overview of a number of parameters in addition to the values that have been found and the units for them.

- Use the *View/Operating data…* menu command or click the button to open the Operating data.

2.3.3. Control unit information

The device information view contains a list of all the information and values relating to the connected device.

- Use the *View/Control unit information…* menu command or click the button to open the Control unit information.

2.3.4. Trend graphic

The graphical trend view shows the sequence of the heater values over time in a diagram. Right-clicking the display with the mouse displays a shortcut menu for the displayed values. You can show or hide the individual values by clicking here. The same thing applies to the displays in point 7.5 Protocol display.

- Use the *View/Trend graphic…* menu command or click the button to open the Trend graphic.

2.3.5. Protocol display

This protocol display view lists all the statuses of the heater during the diagnosis.

- Open the last of the five views of the diagnostic results using menu command *View/Protocol display…* or by clicking the button .
- To close this view click the square at the far right of the window title bar.

2.4. Menu: Error memory

2.4.1. To display the error list

- Open the error display window using menu command *Error memory/ Display error list…* or by clicking the button .
- This view displays a list of all the errors saved in the control unit together with the values that occurred during the error. Each error is listed separately to distinguish clearly between them.
- If you click an error, an explanation of that error will be displayed.

2.4.2. To delete the error memory

To delete all the entries in the error memory select menu command *Error memory/Delete error memory …*, function key **F5**, or click the button .

NOTE

Please note that after they have been deleted, the error values can no longer be reviewed. If necessary you should print out the error values before you delete them (see the Print function, chapter 2.5).

2.5. Menu: Print

2.5.1. To print the summary

To print a summary select menu point *Print/Summary*, function key **F12**, or click the button .

2.6. Menu: Control (depending on heater version)

2.6.1. Off

To switch off the heater select menu command *Control/Off*, function key **F4**, or click the button .

2.6.2. On

To switch on the heater select menu command *Control/On*, or click the button .

2.6.3. Auxiliary heating

If you wish to use auxiliary heating mode, select menu command *Control/Auxiliary heating*, or click the button .

2.6.4. Additional heating

If you wish to use additional heating mode select menu command *Control/Additional heating*, or click the button .

2.6.5. Ventilation

If you wish to use ventilation mode select menu command *Control/ Ventilation*, or click the button .

2.6.6. Boost mode

If you wish to use boost mode select menu command *Control/Boost mode*.

2.6.7. Circulating pump

To switch on the circulation pump select men command *Control/ Circulation pump*.

NOTE

Not all of the control commands are available for all of the heaters.

2.7. Menu: Calibration

2.7.1. CO2 adjustment

To carry out the calibration process select menu command *Calibration/ CO_2 adjustment* or click the button .

NOTE

This function is only available when the heater is in certain statuses. Please also read the corresponding chapter in the workshop manual of the heater in question!

2.8. Menu: Tools

NOTE
If the diagnostic adapter is connected to the USB port, it will be automatically recognised by Windows. No settings are required.

The Tools menu provides you with two menu commands to configure your computer.

2.8.1. COM port

- Open the COM port selection dialog box using menu command *Tools/COM port*.
- Select the COM port (COM1 or COM2) you want to use to connect to the external device.
- Click the <OK> button to confirm your selection.

CAUTION
If the COM port you wish to use is not displayed, this means that the port is being used by a different program. In this case quit all your applications and restart Thermo Test.

2.8.2. Startup

Select menu command *Tools/Startup* if you wish to restart the connection to the control unit automatically after an interrupt. This is an advantage if the operating voltage is disconnected frequently during the test.

The selection will be confirmed by a tick being placed next to the Startup menu command.

If you reselect the menu command or terminate the connection, this selection will be cancelled.

2.9. Menu: Window

The Window menu enables you to influence how open dialog boxes and view windows are displayed.

2.9.1. Overlapping

Select menu command *Window/Overlapping* if you want open windows to be arranged overlapping each other.

2.9.2. Side-by-side

Select menu command *Window/Side-by-side* if you want open windows to be of the same size and arranged next to each other without any overlap.

2.9.3. Close all

Select menu command *Window/Close all* if you want to close all open windows.

2.9.4. To select an open window

Select the *Select an open window* menu command if you want to switch between windows that are open at the same time.

2.10. Menu: Help

2.10.1. Help

This menu displays help topics relating to this diagnostic software.

- To obtain help on the program and problems, select menu command *Help/Help* or click the button . From this window you can go to instructions that will give you a step by step guide to using Webasto Thermo Test 2002 or you can view various types of reference information.
- As soon as you have opened the help topic you can click the Contents button at any time to return to the contents window.

2.10.2. Program information

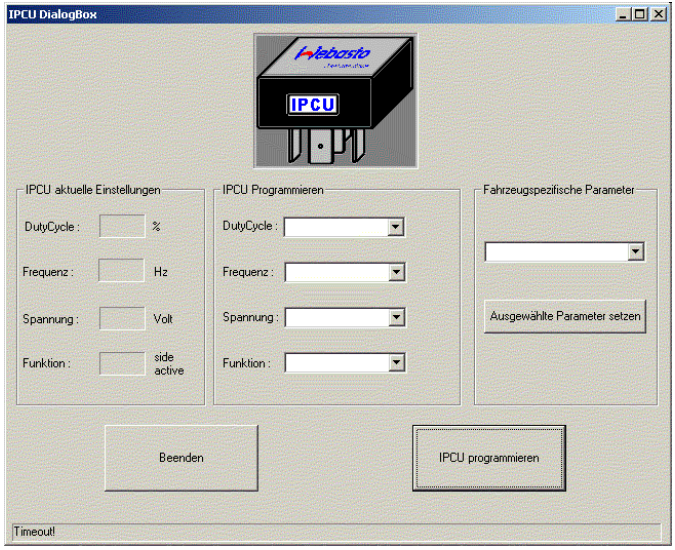
This displays the version of this diagnostic software.

- Select the *Help/Program information…* menu command or click the button to obtain information on your WTT version.
- Click <OK> to close the program information window.

3 Service modules for components and accessories

3.1. IPCU intelligent PWM control unit

3.1.1. IPCU programming



This dialog box is used for programming an electrical system, referred to as IPCU module for short, for controlling vehicle fan motors.

The current settings of the IPCU module are continuously read out and displayed under “Current IPCU settings”.

A list of vehicle modules can be found in “Vehicle-specific parameters”.

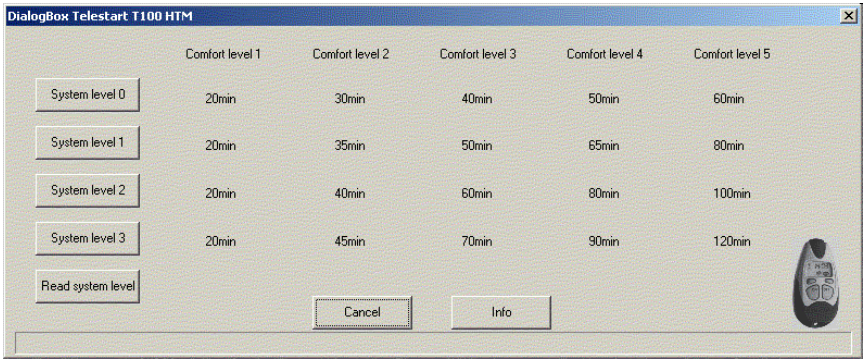
The button “Set selected parameters” sets the predefined parameter for the selected vehicle module under “IPCU programming”.
The parameter values can also be changed individually.

Programming of the selected parameters is only performed using the button “IPCU programming”.

NOTE:
When selecting user-defined parameters, make sure they are suitable for the requirements of the fan motor. Incorrect parameters can lead to a malfunction or damage to the fan motor when the module is operating.

3.2. Telestart T100HTM

3.2.1. Programming the system level



Heating Time Management (HTM) in the Telestart receiver calculates the heating duration depending on the prevailing temperature and the comfort level (C1 to C5) selected using the hand-held transmitter.

Comfort level

We recommend comfort level 2/3 as the basic setting. However, the user can adapt the comfort level according to his or her individual requirements using the HTM transmitter. The specialist workshop can select a higher system level in advance to adapt the system in accordance with specific requirements.

System level

The system level setting is used for the default setting depending on the corresponding vehicle type. This setting can only be made by the Webasto specialist workshop or an installation partner using the diagnostic software.

We recommend the following typical default settings for the system level:
S1: For small cars and saloons
S2: For off-roaders, estate cars, SUVs and in general for vehicles with a spacious interior
S3/S4 : Only in regions with very cold outdoor temperatures or if the customer has special requirements.

Altering the system levels makes it possible to adapt the heating duration to the given features of a particular vehicle heating system.

The maximum heating duration (below -20 °C) is specified for each system level in the dialog box.
The minimum heating duration (above +10 °C) is always 10 minutes.

The heating duration between these two temperature values varies with an approximately linear progression.

4 Troubleshooting

4.1. General

When you select a test function, an error message is displayed.

- Check if the diagnostic adapter is connected to the selected serial port or the USB port on the PC and that heater is properly connected.
- Check whether the heater is switched on and is receiving power.
- Is there an earth connection (apart from via the diagnostic cable) between the PC and the vehicle? If so immediately disconnect the diagnostic cable and disconnect the relevant connection to prevent damage to the adapter and PC.
- The control unit may be defective (check with a different unit before replacing it).
- A control unit that has no diagnostic capability may have been selected.
- An incorrect connection on the control unit has been used for the diagnostic cable.
- If you are using an RS232 (COM) port:
  If another program (e.g. keypad or mouse) is accessing the port, this application must be closed.